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Growth rate comparison of drug resistance strains of Neurospora species.

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Abstract

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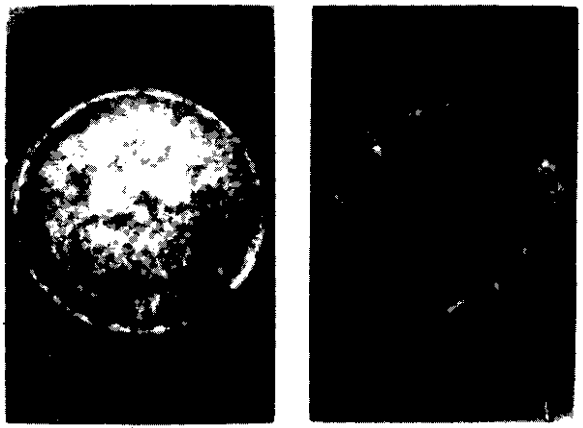

Figuure 1. -- Four - days old cultures of Neurospora sitophila, (a) on drug-free Vogel's medium (b) on VM + 3 µg/ml benzalkonium chloride.

Growth rate comparison between drug resistant strains at different concentrations of benzalkonium chloride were made on petri dishes (9 cm) containing Vogel's medium (VM). Conidial inoculations were made in the centre of the plates. Growth along fixed radii of the plates was measured and plotted against time. Conidia, 4 - 4.5 cm. from the inoculum spot, were inoculated in the centre of petri dishes containing drug free Vogel's medium. The procedure was repeated in cycles as follows: VM + drug-->drug-free VM -->"M + drug-->drug-free VM-->VM + drug-->VM + drug. The morphology of growing cultures was studied using a binocular microscope. Conidial germination was followed by slow hyphal growth in which hyphae were more or less unadapted to the drug. Eventually, fully adapted fast growing mycelia are produced (Fig. la). The final colony usually has a very irregular outline quite unlike the uniform circular outline of colonies grown on drug free medium (Fig. lb). Using this simple method one can study stability of resistant strains as well as the effect of drugs on the morphology of Neurospora hyphae.

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